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ENERGY FOR EDITH ALLISON

SENSITIVE
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SUBJECT: ACADEMICS QUESTION VIABILITY OF METHANE HYDRATE RESEARCH PROGRAM

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REF: TOKYO 2426

¶1. (SBU) SUMMARY: While Japan's research and development of methane hydrate extraction has gained momentum and is drawing high-profile political support, academics and industry figures question its commercial viability and are urging a more thorough examination of the GOJ's methane hydrate program. Scientific skeptics base concerns on the inferior quality of methane hydrate relative to conventional fossil fuels, potentially negative environmental impacts, and the limited scale of reserves in the targeted research area as the basis for their concerns. END SUMMARY.

¶2. (U) The most recent meeting of the Agency for Natural Resources and Energy (ANRE) Oil and Gas Subcommittee revealed strong skepticism about the GOJ's methane hydrate research and development strategy (reftel) among academics and some industry figures. The standing advisory body convened at the request of Economy, Trade and Industry (METI) Minister Nikai, who had tasked the committee (an advisory group consisting of experts from government, industry and academia) with discussing biofuel quality control as well as the GOJ's methane hydrate research and development plan.

METHANE HYDRATE IS A LOW-QUALITY HIGH COST FUEL

¶3. (U) Waseda University Professor Nobuo Morita, an expert in petroleum engineering, said the GOJ should seriously examine the program before devoting more resources to methane hydrate development. Morita said methane hydrate remains extremely difficult to extract, and several technological breakthroughs will be required before commercially-viable extraction can occur. Additionally, the quality of methane hydrate is lower than conventional fossil fuels, which makes it a less efficient energy source. Morita explained that the quality of energy sources may be ranked on a scales of 1 to 5: the most efficient fuels are grade 1, oil, natural gas and coal; grade 2 is heavy oil; grade 3 is hydro-soluble gas or oil sand; grade 4 is deep oil sand; and grade 5 is the deep oil shale; methane hydrate is a grade 5 energy source.

¶4. (U) Morita also questioned the efficiency of extracting methane from methane hydrate (a sherbet-like compound of methane molecules trapped in frozen water), noting liquefaction requires significant ground heat generation, which diminishes net energy efficiency and could also damage the surrounding ground soil. Morita also said the quantity of gas produced from the targeted methane hydrate field is

only about one fifth of the existing Iwaki offshore gas field production near Fukushima prefecture, which weakens its commercial value compared to existing resources. Finally, Morita mentioned methane hydrate could be environmentally damaging if methane, a greenhouse gas that contributes to global warming, escapes during the extraction process

"DREAM COME TRUE" FOR RESOURCE DEPENDENT JAPAN?

15. (U) Katsuhiko Suetsugu, Secretary General of Asia Pacific Energy Forum, described methane hydrate as a potential "dream come true" for a country without any natural resources, and forecasted public support for a methane hydrate research and development program. However, Suetsugu urged the GOJ to be strategic in targeting potential locations for methane hydrate extraction. He praised the methane hydrate research consortium's focus on the Nankai Trough (Southeast of Japan) as well as its cooperation with the U.S. and Canada on methane development. However, the Liancourt Rocks dispute with Korea, competing claims with China in the East China Sea as well as unresolved border issues with Russia will mean Japan has to consider possible jurisdictional disputes on extracting methane hydrates, Suetsugu said. Suetsugu also welcomed the quasi-governmental Japan Oil, Gas and Metals Exploration Corporation's (JOGMEC) leadership of the research consortium, but called for more incentives for private companies to participate in the project.

ENERGY AND FISHING INDUSTRIES AT ODDS

16. (U) Speaking on behalf of industry, a representative of the Japan
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Gas Association said industry would welcome development of domestic natural gas resources and also called on the GOJ to fund research and development of coal gasification to extract methane.

17. (U) Meanwhile, a representative of the National Federation of Fisheries Cooperative Associations, said he was glad to hear Professor Morita's presentation describing the challenges of methane hydrate development. Emphasizing the importance of aquatic resources in Japan's Exclusive Economic Zone, in which 300,000 fishing boats operate daily, Yoshida called for emphasizing the importance of the ocean environment as well as the national interest. A committee member from the Japan Petroleum Development Association also noted that some of the technologies being considered for methane hydrate extraction, including high-pressure water injection, may require additional regulation, i.e., a curtailment of fishing rights, of the fisheries industry.

18. (SBU) COMMENT: Several committee members said Morita's skeptical remarks were particularly eye-opening. While the vigorous panel discussion reflects the high profile attention methane hydrate has received, the divergent opinions on the feasibility of methane hydrate extraction illustrate a consensus has not yet emerged on the scope and direction of the GOJ's research and development program. Energy security, particularly development of methane hydrate within Japan's exclusive economic zone, rather than economics appears to be driving the GOJ's interest at this stage. END COMMENT.